

Systems and Methods for Phase Multiplexing in Assigning Frequency Channels for a Wireless Communication Network

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Abstract of the Disclosure

10 The present invention provides for a modulation control device and method that can be implemented economically in existing communication networks or new networks to increase capacity. A modulation control device in accordance with the present invention allows for possibly more than one call to simultaneously utilize the same frequency channel for AMPS systems or the same frequency during the same timeslot for TDMA systems. A modulation control device in accordance with the present invention evaluates the transmission quality of a frequency channel and if acceptable, the modulation control device phase divides the frequency channel. The modulation control device assigns phase adjustment values to a call preferably which remain independent of the information encoding modulation techniques utilized. A call
15 then can be modulated by the assigned phase adjustment value during transmission, and the call may be identified by the assigned phase adjustment value during reception. The present invention further provides a methodology for modulating calls by varying phase to increase capacity in wireless communication networks.

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ATL01/10596164v2